

In the Claims:**RECEIVED
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Claims 1 to 24 (Canceled).

1 25. (Previously presented) A semi-fabricated intermediate
2 article for producing a composite material, comprising a
3 plurality of discs (10) that each respectively comprise a
4 matrix material and that are arranged as a loose stack of
5 said discs which are not yet joined to one another, each
6 said disc (10) in said stack further comprising: a radially
7 inner opening (11) surrounded by an inner disc edge and a
8 disc ring portion surrounding said inner opening and
9 surrounded by an outer disc edge, said disc ring portion
10 comprising a groove (13) and at least one reinforcing fiber
11 (14) embedded in said groove (13) with said matrix material
12 surrounding and consolidated around said at least one
13 reinforcing fiber in said groove, thereby forming a fiber
14 reinforced disc ring section, said reinforcing fiber (14)
15 and said groove (13) being spaced radially outwardly from
16 said inner disc edge thereby forming an inner first disc
17 ring section free of reinforcing fiber, said reinforcing
18 fiber (14) and said groove (13) being spaced radially
19 inwardly from said outer disc edge thereby forming an outer
20 second disc ring section free of reinforcing fiber, said
21 fiber reinforced disc ring section being positioned between
22 said first and second disc ring sections free of
23 reinforcing fiber.

1 26. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 25,
3 wherein said first disc ring section free of reinforcing
4 fiber comprises a first radial width that is the same in
5 each disc in said stack, and wherein said second disc ring
6 section has a second radial width that differs in different
7 discs in said stack.

1 27. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 25,
3 wherein said groove in each disc in said stack has a spiral
4 shape so that said at least one reinforcing fiber (14)
5 extends spirally inside said fiber reinforced disc ring
6 section.

1 28. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 26,
3 wherein said second radial width that differs in different
4 discs is individually adapted for each disc in said stack.

1 29. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 25,
3 wherein said matrix material comprises titanium or a
4 titanium alloy, and said at least one reinforcing fiber
5 comprises a silicon carbide fiber in each said disc in said
6 stack.

1 30. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 26,
3 wherein said second disc ring section free of reinforcing
4 fiber in one disc in said stack is overlapped by at least
5 one fiber reinforced disc ring section of at least one
6 neighboring disc in said stack at an interface between said
7 fiber reinforced disc ring section and said second disc
8 ring section free of reinforcing fiber.

1 31. (Previously presented) The semi-fabricated intermediate
2 article for producing the composite material of claim 25,
3 wherein said grooves in neighboring discs of said stack are
4 radially displaced relative to each other so that said at
5 least one reinforcing fiber in a given disc is radially
6 staggered relative to respective reinforcing fibers in
7 neighboring discs in said stack.

1 32. (Withdrawn) A method of processing the semi-fabricated
2 intermediate article for producing the composite material
3 of claim 25, said method comprising the steps:

- 4 a) providing said plurality of said discs (10) of said
5 matrix material,
- 6 b) forming at least one said groove (13) in each disc of
7 a number of discs in said plurality of discs (10),

- 8 c) inserting said at least one reinforcing fiber (14) in
9 each said groove (13) of a respective disc of said
10 number of discs,
11 d) consolidating each said disc with said at least one
12 reinforcing fiber (14) in said groove (13) thereof
13 respectively so as to form a consolidated disc in
14 which said at least one reinforcing fiber (14) is
15 surrounded on all sides and embedded in said matrix
16 material,
17 e) stacking said consolidated discs to form said loose
18 stack as said semi-fabricated intermediate article,
19 and
20 f) joining each said disc in said stack to a neighboring
21 said disc or discs in said stack to form a solid stack
22 as said composite material.

1 33. (Withdrawn) The method of claim 32, further comprising
2 performing said step of providing by producing said
3 plurality of discs (10) with said radially inner opening
4 (11) surrounded by said inner disc edge, forming said at
5 least one groove in said fiber reinforced disc ring section
6 with a first spacing from said inner disc edge, and forming
7 said at least one groove in said fiber reinforced disc ring
8 section with a second spacing from said outer disc edge of
9 said disc (10) whereby said first disc ring section free of
10 reinforcing fiber is formed radially inwardly of said
11 groove (13) and said second disc ring section free of
12 reinforcing fiber is formed radially outwardly of said

13 groove, so that said fiber reinforced disc ring section
14 with said at least one groove (13) therein is positioned
15 between said first and second disc ring sections free of
16 reinforcing fiber.

1 34. (Withdrawn) The method of claim 32, further comprising
2 performing said step of forming by making said groove (13)
3 to a depth, in an axial direction, larger than a diameter
4 of said at least one reinforcing fiber (14) so that lands
5 (15) project above said at least one reinforcing fiber (14)
6 inserted in said groove.

1 35. (Withdrawn) The method of claim 32, further comprising
2 performing said step of consolidating each said disc (10)
3 with said at least one reinforcing fiber (14) in said
4 groove (13) thereof by exposing said disc to a superplastic
5 deformation so that said fiber is enclosed on all sides by
6 said matrix material.

1 36. (Withdrawn) The method of claim 33, wherein said step of
2 stacking is performed so that each said radially inner
3 opening (11) of each said disc in said stack is axially
4 aligned with all other said radially inner openings to
5 thereby form a hollow cylinder.

Claim 37 (Canceled).

1 38. (Withdrawn)) The method of claim 32, wherein said step of
2 joining is performed as a diffusion welding of said discs
3 (10) to form said solid stack.

1 39. (Withdrawn) The method of claim 32, further comprising
2 inspecting each said disc, following said consolidating
3 step and before said stacking step, for any breaks in said
4 at least one reinforcing fiber and for any cracks in said
5 matrix material, and discarding any said disc in which a
6 break or a crack is discovered.

1 40. (Previously presented) A composite material article
2 comprising a plurality of annular ring-shaped composite
3 discs arranged axially aligned with one another and stacked
4 successively to form a stack of said discs, wherein:

5 each respective disc of said plurality of composite
6 discs respectively comprises an annular ring of a matrix
7 material including an inner ring portion bounding a central
8 axial hole of said disc, an outer ring portion bounded by
9 an outer periphery of said disc, and an intermediate ring
10 portion between said inner and outer ring portions;

11 each said respective disc respectively further
12 comprises at least one reinforcing fiber that extends in a
13 direction around said central hole in said intermediate
14 ring portion, and said outer ring portion of said matrix
15 material does not include said at least one reinforcing
16 fiber therein; and

17 each said respective disc is respectively bounded by
18 first and second annular surfaces, and said at least one
19 reinforcing fiber is embedded in and surrounded by said
20 matrix material that is consolidated around said at least
21 one reinforcing fiber, so that said at least one
22 reinforcing fiber is located between and axially displaced
23 inwardly away from said first and second annular surfaces,
24 as results from a fabrication process in which a groove
25 deeper than a diameter of said at least one reinforcing
26 fiber was provided in said matrix material of said
27 intermediate ring portion of said respective disc, said at
28 least one reinforcing fiber was disposed in said groove of
29 said respective disc, and said respective disc was
30 consolidated so as to deform said matrix material thereof
31 to close said groove around said at least one reinforcing
32 fiber.

1 41. (Previously presented) The composite material article
2 according to claim 40, wherein said discs are loosely
3 stacked on one another in said stack and are not yet joined
4 to one another.

Claims 42 and 43 (Canceled).

1 44. (Previously presented) The composite material article
2 according to claim 40, wherein said groove and said at
3 least one reinforcing fiber extend along a spiral path
4 around said central hole.

Claims 45 and 46 (Canceled).

[RESPONSE CONTINUES ON NEXT PAGE]

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